

# Natural Gas Prices

*An Overview and a Look Ahead to the  
2012-2013 Heating Season*

October 31, 2012



**Natural gas prices during  
the 2012-2013**

**heating season will be  
lower than last year; prices  
are forecast to remain  
relatively stable for the  
next several years**

- **Structure of the natural gas industry**
- **How natural gas rates are set**
- **The natural gas market**
- **Recent trends in gas prices**
- **What's ahead for 2011/2012**
- **What consumers can do**

# Structure of the natural gas industry

- Producers/processors
  - Wholesale prices unregulated
- Interstate pipeline companies
  - Federally regulated
- Local distribution companies (LDCs)
  - State regulation

# Natural gas rates

Three components

- Distribution system
- Pipeline delivery cost
- Wholesale price

# Distribution system component

- Reflects cost of delivering gas to consumer
  - Operations and maintenance costs
  - Customer service costs, inc. billing
  - Personnel, overhead, etc.
  - Return on investment
- Includes fixed monthly charge; volumetric delivery charge
- Determined by PSC through ratemaking
- May include surcharges for things such as infrastructure replacement; low-income customer assistance

# Pipeline delivery cost

- Cost of moving gas from well to local distribution system
- Passed on directly to consumers through gas cost adjustment
- Regulated by Federal Energy Regulatory Commission
- No profit (markup) for local distribution company

# Wholesale cost

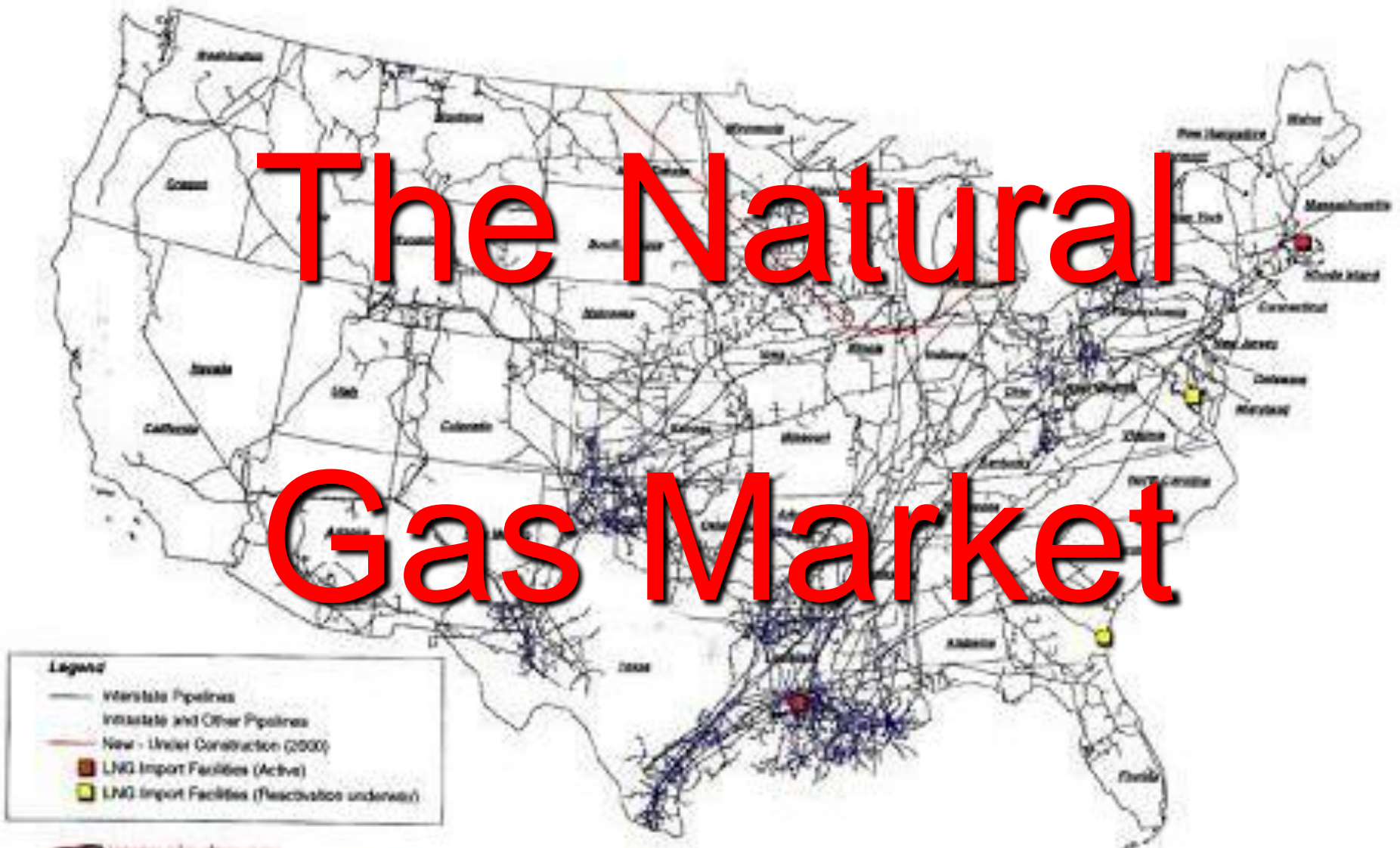
- Deregulation began in 1970s to stimulate gas production during energy crisis – deregulation complete in 1993
- Fluctuates with supply and demand
- Largest factor in fluctuations in overall retail gas price
- Direct pass-through to consumer via gas cost adjustment (GCA)

# Gas cost adjustment

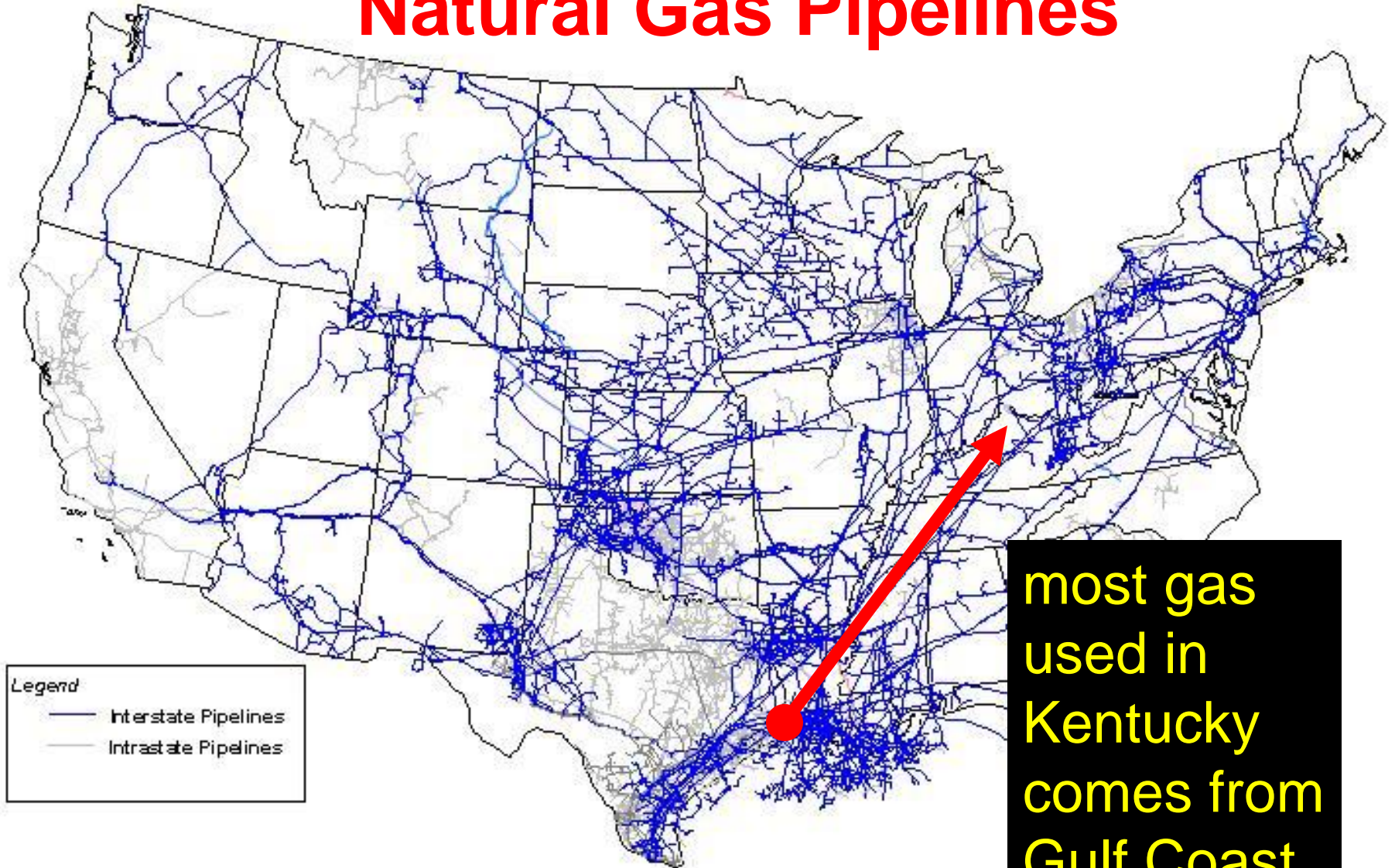
- Allows LDCs to recover wholesale and pipeline cost
- Does NOT include markup for LDCs - simple pass-through of wholesale cost to consumers
- Reviewed by PSC for accuracy
- Typically adjusted quarterly - prospective
- Includes rolling adjustment for over or under recovery of costs in previous periods

***The most frequent changes in retail gas rates are due to gas cost adjustments, which are driven by conditions in the wholesale gas market.***

# The Natural Gas Market



# Natural Gas Pipelines



Source: Energy Information Administration, Office of Oil & Gas, Natural Gas Division, Gas Transportation Information System

# The Natural Gas Market

## Key Points

- National market - regional differences
- Traded as a commodity
- Prices are market-driven

# Pricing

## Spot market

- Short-term price
- At delivery point (Henry Hub pipeline terminal in Louisiana)

## Futures market

- For set quantity at set price on set date
- Forward-looking
- NYMEX (New York Mercantile Exchange)

# Supply factors

- Production
  - Major new reserves being developed
  - Typically lags behind demand
- Liquefied Natural Gas (LNG) – moving from import to export
- Stored gas - typically about half of winter usage comes from storage

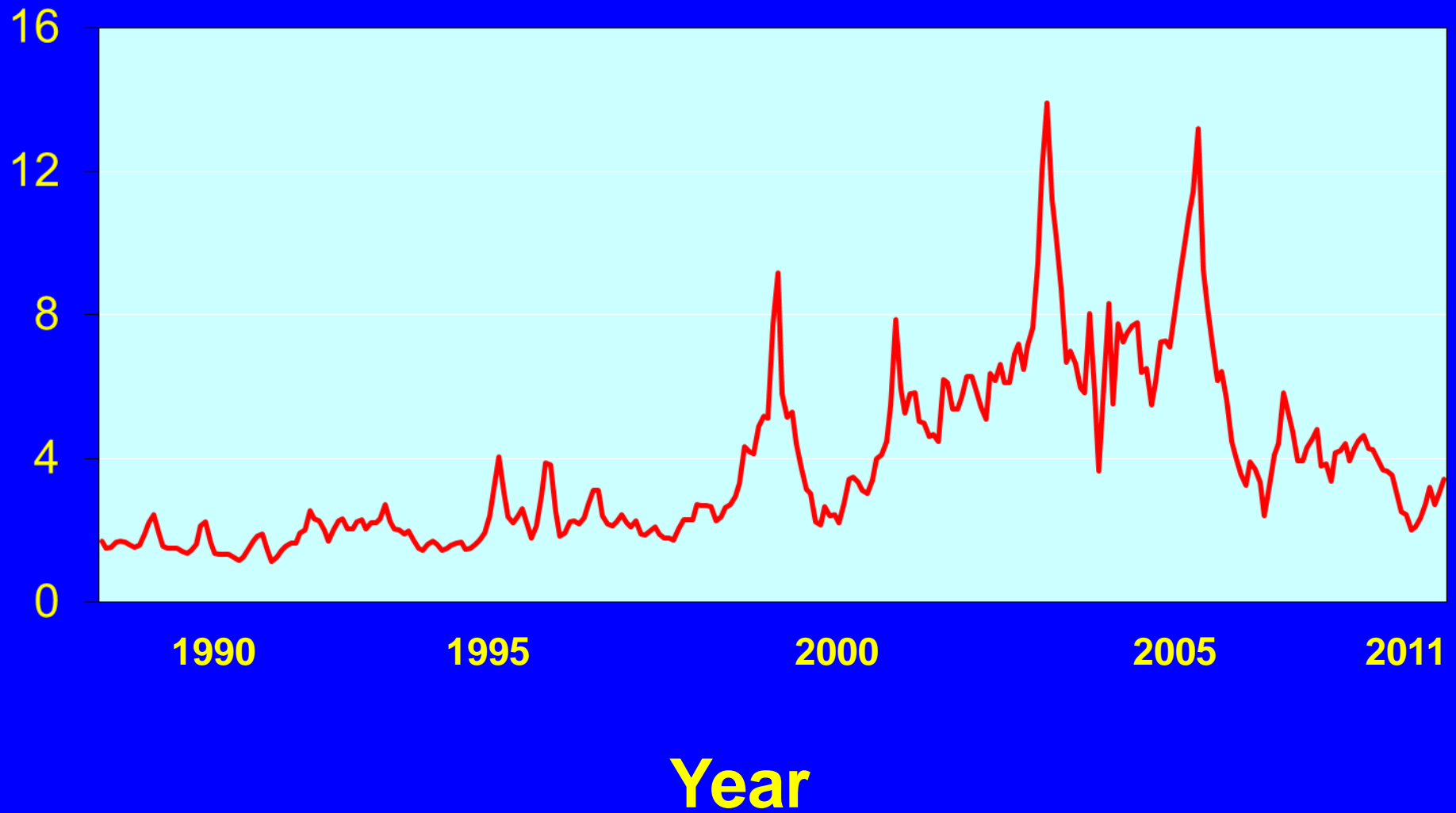
# Demand factors

- General economic conditions
- Weather
  - Principal home heating fuel
- Electric generation usage
  - Both peaking & base load
- Industrial usage
  - Most sensitive to price (fertilizer, etc.)

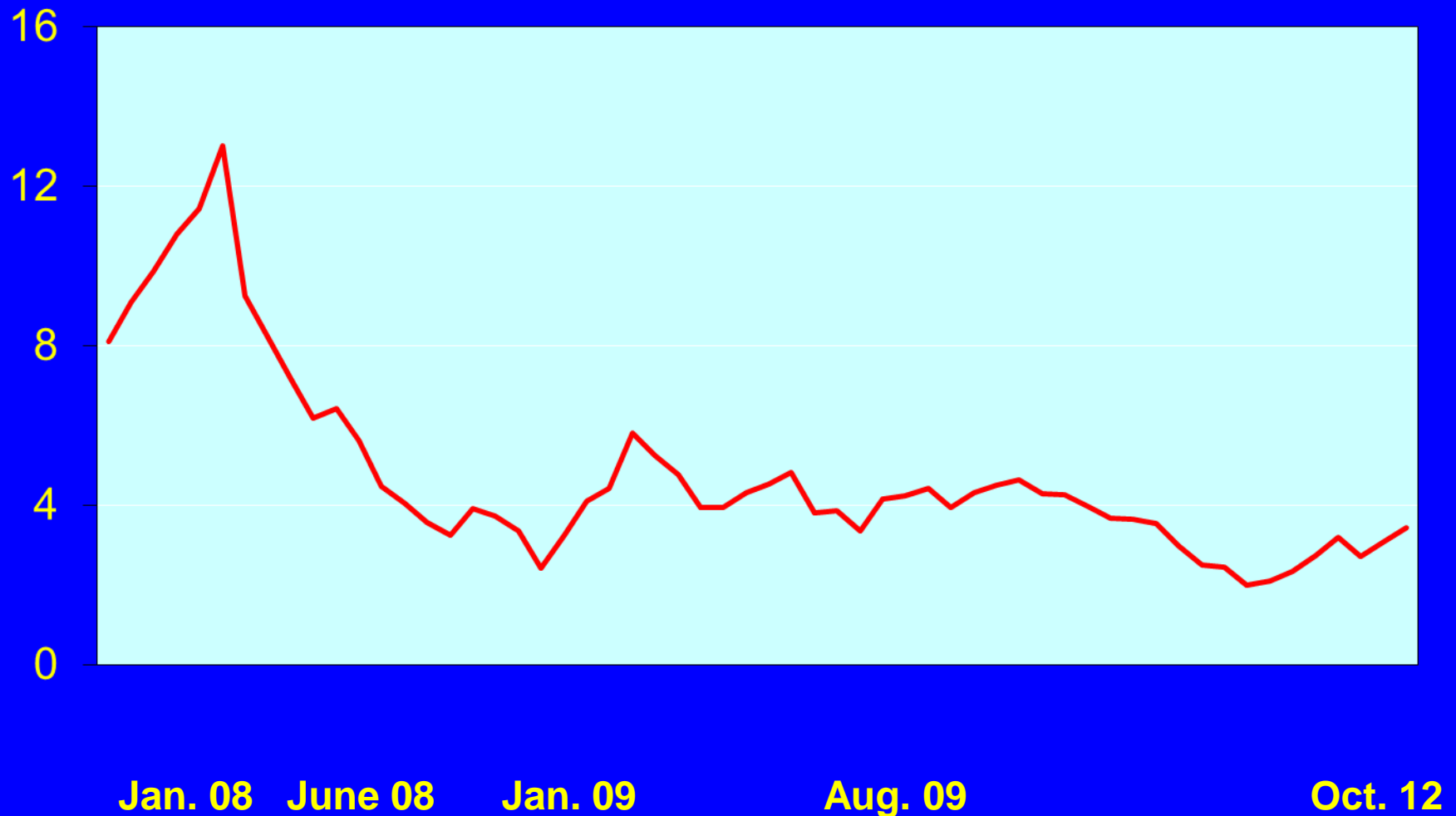
# Market trends 2000-2007

- Increasing demand and production
- Pipeline capacity constraints
- Increased price volatility
- More demand in summer due to peaking electric generation
- Higher summer prices

## Henry Hub Price - 1989 to present



## Henry Hub Price - Jan. 2008 to present

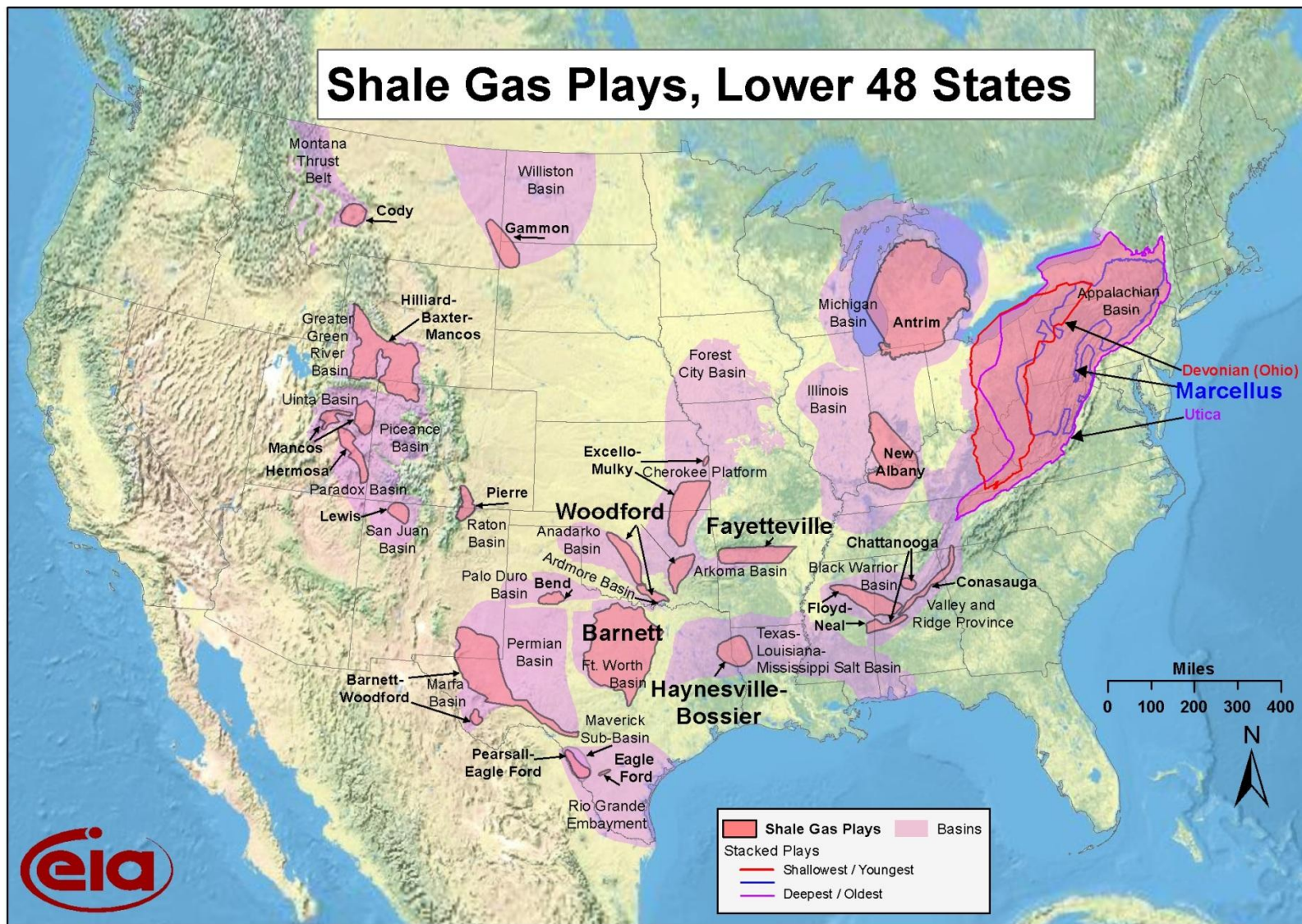


**Spot price decline – 6/08 (\$13) to 8/09 (\$2.42) – 81%**

# What has happened in 2008-2012

- Speculative bubble in first half of 2008
- Unsustainably high prices
- Moderating demand due to economy
- Increasing supply – due to shale gas and new pipelines into high-demand areas
- Price collapse in summer 2009
- Prices have decreased/stabilized in last three years

# Shale Gas Plays, Lower 48 States



Source: Energy Information Administration based on data from various published studies.  
Updated: March 10, 2010



***Looking ahead  
to 2012-2013***

# Where we are

- Demand stable
- Ample supply
- Prices staying within relatively narrow range relative to 2002-2009 period
- Normal seasonal fluctuations - low point in spring, high point in winter

## NYMEX Henry-Hub Natural Gas - 12 previous months



44% of Kentucky households

**Adjusted natural gas costs  
are 20% lower than a year  
ago – the total November  
bill (for 10 mcf/month) is  
nearly 12% lower for the  
aggregate of the five  
largest LDCs**

# Price forecast

- Latest GCAs filed by all major Kentucky LDCs are \$.64 lower to \$2.09 lower per 1,000 cubic feet than last year at this time
- Total bills \$6.40 lower to \$20.97 lower for customer using 10,000 cubic feet/mo
- Gas storage is at record high level nationally
- Kentucky in line with national picture

# Current gas costs

## Gas Cost Adjustment - per 1000 cubic feet

<u>LDC</u>	<u>11/08</u>	<u>11/11</u>	<u>11/12</u>	<u>11-12 %</u>	<u>08-11%</u>
<b>Average</b>	<b>\$11.70</b>	<b>\$5.56</b>	<b>\$4.43</b>	<b>- 20%</b>	<b>- 62%</b>
<b>Atmos</b>	<b>\$11</b>	<b>\$5.73</b>	<b>\$4.59</b>	<b>- 20%</b>	<b>- 58%</b>
<b>Columbia</b>	<b>\$14.23</b>	<b>\$5.64</b>	<b>\$3.55</b>	<b>- 37%</b>	<b>- 75%</b>
<b>Delta</b>	<b>\$13.13</b>	<b>\$5.94</b>	<b>\$5.30</b>	<b>- 11%</b>	<b>- 60%</b>
<b>Duke</b>	<b>\$9.05</b>	<b>\$5.32</b>	<b>\$4.44</b>	<b>- 16%</b>	<b>- 51%</b>
<b>LG&amp;E</b>	<b>\$11.09</b>	<b>\$5.16</b>	<b>\$4.25</b>	<b>- 18%</b>	<b>- 62%</b>

**11/02 average = \$4.90/mcf (\$6.07 adj. for inflation)**

**(as of 11-1-12)**

# Current gas costs

Total gas bill – “typical customer” – 10 mcf/mo

<u>LDC</u>	<u>Nov. 2011</u>	<u>Nov. 2012</u>	<u>% change</u>
Atmos	\$ 80.79	\$69.36	- 14%
Columbia**	\$87.49	\$66.52	- 24%
Delta	\$123.29	\$116.89	- 6%
Duke*	\$106.45	\$97.58	- 8%
LG&E	\$86.50	\$77.40	- 10%
Average	\$96.90	\$85.55	- 12%

2008 avg. - \$150.78

(as of 11-1-12)

\* Gas cost adjusted monthly

\*\* Gas cost last adjusted for September; others for November

# Why do prices vary among companies?

- Base rate differences
- Adjustment factors
- Timing of adjustments
- Availability of on-system storage
- Access to multiple pipelines

**Prices appear to be stable  
for medium term –**

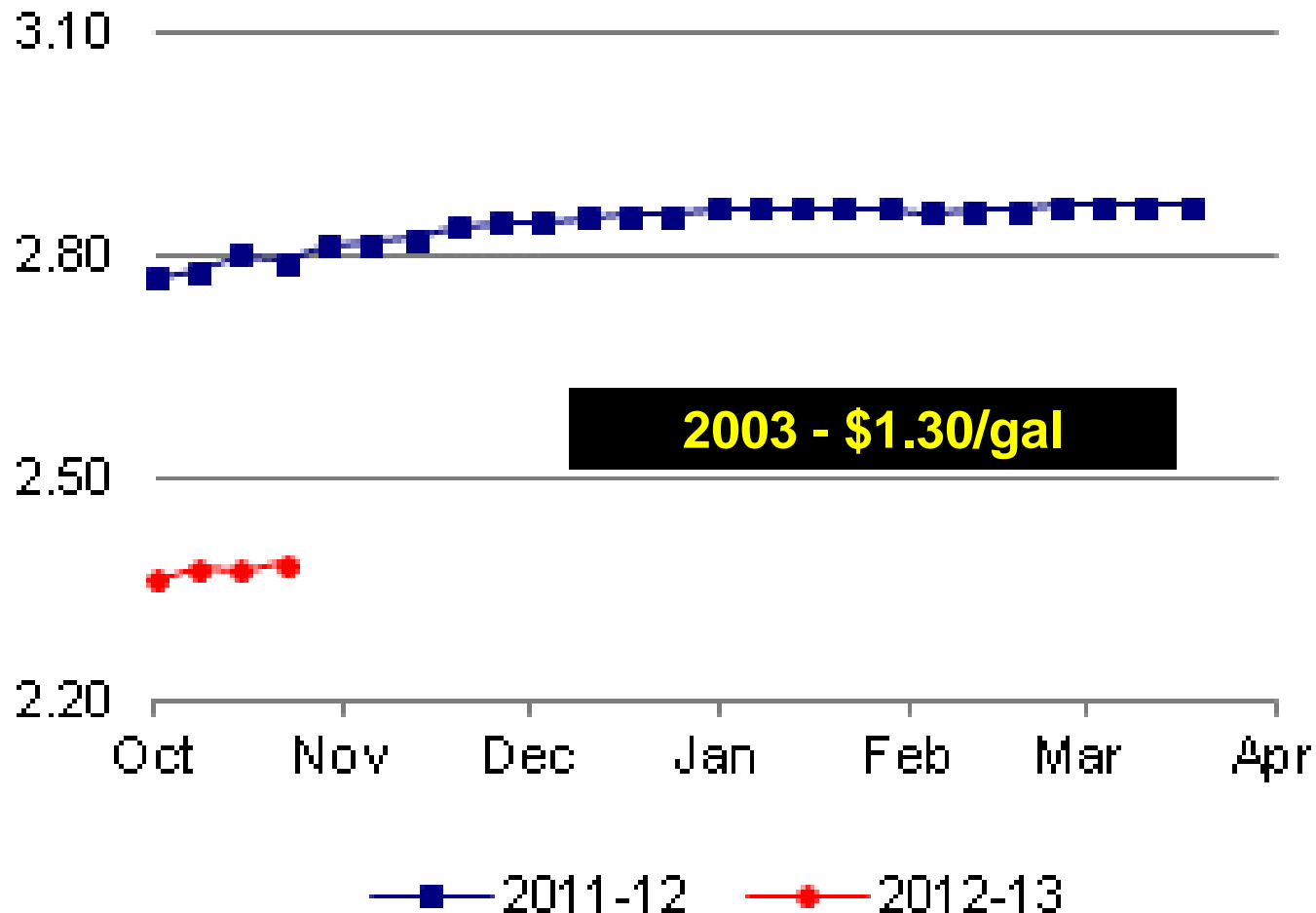
**Henry Hub futures in \$3  
to \$6 per mcf range  
through December 2020**

**Propane prices down  
from last year; heating  
oil up slightly; electricity  
also up slightly**

## Residential Propane

dollars/gallon

EIA

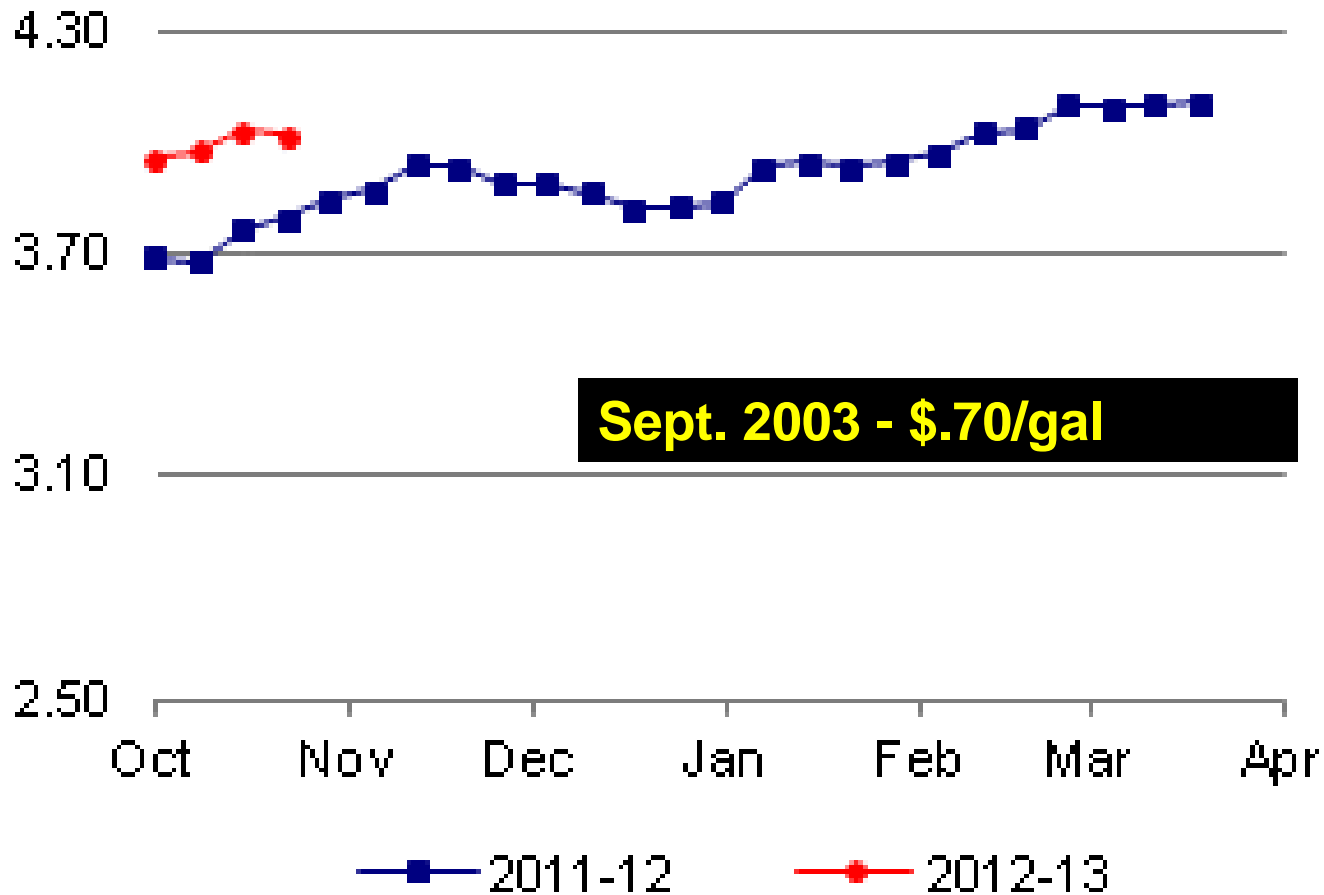


10% of Kentucky households

## Residential Heating Oil

dollars/gallon

EIA



3% of Kentucky households

## **Winter heating costs:**

- **Weather – will drive consumption**
- **Consumption will drive wholesale costs**
- **Ultimately, individual bills will be determined by individual consumption**

***Reducing  
home heating  
costs***

# Conservation

- Turn down thermostat
  - Going from 72 degrees to 68 degrees can save 15% or more on your gas bill
  - Programmable thermostats can save even more



# Weatherization

Substantial savings are possible if you:

- Caulk around windows, doors
- Replace worn weather stripping
- Seal openings



# Weatherization

- Install storm windows
- Cover windows with plastic
- Add insulation



# Energy audits

- Identify problem areas
- Suggest corrective actions
- Offered by most major utilities
- Often free or nominal charge

# Budget billing

- Annual averaging of monthly bill
- Removes seasonal fluctuations
- Allows predictable budgeting
- Annual or rolling “true up”
- Does NOT cut costs

# Low-income Assistance

- Administered through Cabinet for Health & Family Services - local Community Action Agencies
- Weatherization assistance - eligibility based on income; many utilities provide matching funds

# **Low-Income Home Energy Assistance Program (LIHEAP)**

**Two programs - Subsidy & Crisis**

- Subsidy - Nov.-Dec. - ~100,000 households**
  - Crisis - Jan.-March - ~125,000 households**
- 

**Low-income assistance also is provided by many local non-profit agencies. Utility companies also have low-income assistance programs (Winterhelp - LG&E; Atmos Cares)**

# Resources

- Dept. for Energy Development & Independence
  - Energy statistics
  - Energy efficiency and conservation programs
- Community Action Kentucky
  - Weatherization assistance
- Cabinet for Health & Family Services
  - LIHEAP information
- UK, UofL & others
  - Energy research

# On the Web

## Energy efficiency/conservation

<http://energy.ky.gov/efficiency/>

## Assistance programs

### - Weatherization assistance

<http://www.communityactionky.org/WhatWeDo/EnergyAssistance/Weatherization.aspx>

### - LIHEAP information

<http://www.communityactionky.org/Agencies/GetAssistance/LIHEAPProgram.aspx>

## General information, consumer complaints

<http://psc.ky.gov>

# *Questions?*

[psc.info@ky.gov](mailto:psc.info@ky.gov)

Re: natural gas prices

## Contact information:

**Andrew Melnykovych**

**Communications Director**

**Kentucky Public Service Commission**

**211 Sower Boulevard, Frankfort KY 40602**

**502-564-3940 x208**

**[Andrew.Melnykovych@ky.gov](mailto:Andrew.Melnykovych@ky.gov)**